

INNOVATIONS IN THE BRADLEY PROGRAM

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Introduction

In today's age of acquisition reform, changes to the way we do business are the norm rather than the exception. If you take a moment and think back to where we were 10 years ago, and consider how we do things today, the magnitude of the change is really evident. However, in an environment where change is the norm, many changes go unnoticed.

Recently, the FY00 Bradley A3 low-rate initial production (LRIP) contract was awarded to United Defense Limited Partnership (UDLP). The award is referred to as the "corporate contract" because it contains all of the Bradley Program Manager's (PM's) requirements under one UDLP Ground Systems Division contract. The FY00 corporate contract encompasses the Bradley A3 vehicle (80 each), the Bradley A2ODS vehicle (60 each), the Bradley Fire Support Team (BFIST) vehicle, and associated spares. This contract is for the remanufacture of existing Bradley vehicles of earlier configurations to various new configurations cited above. The award of the corporate contract probably didn't even register a blip on the Department of the Army's radar screen, but for the U.S. Army Tank-automotive and Armaments Command (TACOM), Warren, MI, and the Bradley Project Manager's Office, it unveiled a new philosophy and a new way of doing business.

The advent of acquisition reform, coupled with budget cuts and diminishing resources, made the time ripe for a change in contract strategy. The Bradley PM Office initiated a series of innovations into the FY00 contract aimed at increasing the contractor's overall vehicle responsibility from start of manufacture to vehicle handoff.

Increased Contractor Flexibility

The various innovations may at first seem like individual initiatives, but ultimately they give the contractor increased responsibility in the vehicle's manufacture. With increased responsibility comes increased risk, but most important, increased flexibility with less government oversight in managing procurement of the vehicle. The increased flexibility gives the contractor latitude to more effectively control system design, manufacture, configuration management, and procurement, thereby resulting in potential savings for his or her firm and for the government.

The primary change in the corporate contract was the use of performance-based specifications instead of a technical data package. Also incorporated into the contract was a design constraints clause. The bottom line is that the contractor has increased flexibility in the overall vehicle system design changes with less government oversight for configuration changes that do not directly affect testability, interchangeability, and manpower and personnel integration

(MANPRINT) domains. The end result is less government oversight in the overall configuration management process, which leaves the contractor with the flexibility to independently make cost-saving design changes. The contractor is still required to maintain the technical data package, but not to a Level III format. In addition, there are no delivery requirements for drawings under this contract.

Fielding Handoff

Perhaps the most unique innovation is the requirement for the contractor to "DD250" (inspect and receive) the vehicle at the fielding handoff point itself rather than at the factory. Initially, this approach was met with a certain amount of resistance from both the contractor and the government. However, a pilot program was conducted under the Bradley system technical support contract with three vehicles from the Bradley A3 LRIP III contract (FY99) testing the change. The results were extremely favorable because the contractor discovered many areas of duplication that occur in the Final Inspection Record (FIR)



*Bradley A3
conducting
night gunnery*

activity leading up to factory DD250 and the deprocessing effort that takes place prior to vehicle handoff.

The contractor identified, by percentage, the potential reduction in man-hours per vehicle attributable to the duplication of tasks that occur between FIR activity and deprocessing. The A3 vehicle can realize a potential reduction in man-hours of up to 51 percent for deprocessing.

Basically, deprocessing will now be treated as an extension of the production line under the corporate contract. Redundant inspections will be reduced to critical performance characteristics. This significantly reduces the man-hours to deprocess each vehicle configuration under the corporate contract. The pilot program results showed a potential reduction in man-hours for deprocessing for the Bradley A2ODS vehicle of up to 69 percent, and for the BFIST of up to 68 percent. This innovation made good business sense even without a move toward performance-based contracting. However, it fully complements the performance-based philosophy by assigning responsibility for overall management of the vehicle to the contractor from the start of production until vehicle handoff.

Fielding Schedule

This leads us to the next innovation. Instead of incorporating a monthly delivery schedule into the contract, a vehicle fielding schedule was imposed on the contractor instead. This "fielding schedule management" philosophy goes hand in hand with the requirement to DD250 at handoff. The contractor was provided the various vehicle-fielding schedules during the requirements definition period of the overall vehicle procurement. As such, it is the contractor's responsibility to manage the overall build schedule, shipping, delivery, and deprocessing to meet the Army's fielding needs. The advantage of this is that the contractor manages the build schedule for each vehicle in the most economic fashion for the government.

UDLP's manufacturing facility in York, PA, maintains the same production line for each vehicle configuration under the corporate contract. Instead of having to meet monthly delivery requirements for each vehicle independently, the contractor can flip-flop monthly manufacturing schedules to meet fielding requirements. For exam-



Bradley A3 on the move at Fort Hood, TX

ple, instead of requiring a certain number of specific vehicles each month, the contractor can build all A3 vehicles or all A2ODS vehicles as the fielding schedule dictates. The end result is that the contractor makes maximum use of the production facility in the most economic fashion possible for the government. The drawback to this is that fielding schedules change over time.

To minimize the impact of changing fielding schedules, a "time range" is built into the schedule by which the schedule can slip a certain number of months from left to right without a cost impact to the contract. Because the FY00 fielding requirements were relatively stable, a flexibility range was not incorporated into that contract. However, the follow-on Bradley A3 effort will be a 3-year procurement (FYs 01-03), requiring incorporation of a time range into that contract.

Final Innovation

The final innovation designed to complement the overall philosophy outlined above is the "break in" of several major vehicle components. Traditionally the PM, Bradley Office has sought to break out stable design components to avoid the pass-through costs associated with going through a prime contractor (the primary components being the transmission, engine, and the turret drive system). In addition, several complex components in the Bradley A3 Program that were targeted for breakout years ago were kept under the management of the prime contractor. As noted previously, all of these innovations are designed to give overall system responsibility to the prime contractor. Therefore, it made

good business sense to include as many major vehicle components as possible under this system's responsibility umbrella.

Traditional pass-through costs were minimized by the contractor's technique of "bundling" the component quantities over several fiscal years, thereby securing economies of scale and a reduced profit rate applied to major components. Assigning system integration responsibility to the contractor and the complexity of individual items were key in determining whether a specific component was a good candidate for break in. Some items, such as the Improved Bradley Acquisition System and track and roadwheels, were left as government-furnished equipment.

Conclusion

Because of diminishing resources, these innovations are necessary to keep up with the constant changes in the Army acquisition world. Although initially driven by resource issues, the innovations described in this article have clearly made good business sense. The emphasis on contractor responsibility and the flexibility has provided new incentives to seek program cost reductions and manufacturing process improvements. At the time this article was written, the next step for the Bradley A3 Program was scheduled to be the Milestone III decision in March 2001 and the award of a 3-year (FYs 01-03) contract in which all of these innovations will remain intact.

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